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ABSTRACT

Test management systems are suggested for individualizing the teaching of reading in the elementary classroom. Test management systems start with a list of objectives or specific goals which cover all or some major areas of the learning to read process. They then develop a large number of criterion referenced tests which match the skill areas at differeing levels of development. After the criterion referenced tests are administered, specific teaching suggestions are given, and reference is made to different publishers' materials that teach the specific skills tested. In order to explain how to use a test management system, the Wisconsin Design, developed by Wayne Otto and a number of colleagues at the University of Wisconsin, is discussed. The overall scope covers six skill areas and seven developmental levels. The record keeping procedure includes folders printed with skills and McBee type cards which have holes around the periphery which are notched when a skill is mastered and which are skewered in order to group students for instruction in a particular skill. (MKM)

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INDIVIDUALIZING THE TEACHING OF READING

THROUGH TEST MANAGEMENT SYSTEMS

Paper Presented At
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CS 002 563

Individualization of instruction is only a slogan unless it can be translated into classroom practice.

The most common method of reading instruction in American schools is the basal reader approach which utilizes small groups formed by separating the class into three or four ability levels. These ability levels seldom have materials that are more than half a year apart; thus, the typical spread of materials is about 1-1/2 to 2 years. However, the spread in children's reading abilities is often two or three times as great.

When asked, the classroom teacher will often acknowledge that the children's reading levels have a wider spread than the materials used, but she will plead that it is nearly impossible to have more than three or four ability level groups because of the difficulty in use of the basal series, or even the basal plus supplementary material. Clearly then, the teacher is hindered from providing more individualization by the type of materials she is using.

It might help if we looked at the individualization problem from the standpoint of control of rate and type of information or lesson content. The primary source of control in the basal

system is the teacher s manual plus group progress. When the group has finished Lesson 1, they go on to Lesson 2, etc. The speed of the group might vary a little, but the content is pretty much a fixed track. There is an orderly progress through the reader, the workbook, and the supplemental activities. Some provision is made for remedial assistance, but most of the pupils get essentially the same materials.

I would like to propose that we look at another way of organizing the curriculum and shifting the control from the basal teacher's manual to a set of tests. Because tests essentially determine the curriculum and its rate of presentation, I will call these "test management systems."

The test management systems start with a list of objectives or specific goals which cover all or some major areas of the learning to read process. They then develop a large number of criterion referenced tests which match the skill areas at differing levels of development.

After the criterion referenced tests are given, specific teaching suggestions are given and reference is made to a large amount of different publishers' materials that teach the specific skill tested. Test management systems like the Wisconsin Design or the Fountain Valley system list dozens of different sources ranging from basal reader systems to supplementary audio-

visual materials for each of the skill areas they test. As a rule, test management systems do not sell their own materials for the child to use. They do, however, have lists of materials for the teacher to use, some teaching suggestions, and, of course, tests and scoring services. In addition to telling the teacher about a large amount of commercially published material, the teacher is encouraged to develop his or her own skills lessons.

Though we are calling these test management systems, other authors might call these or similar systems the diagnostic-prescriptive approach, continuous process, or mastery learning. Commercial publishers tend to have test management systems in varying degrees of completeness under such names as "Prescriptive Reading Inventory," SRA's "Diagnosis," "High Intensity Learning," Random Program, "Individualized Criterion Referenced Testing," "Skills Monitoring System," or "Individual Pupil Monitoring System."

Perhaps you will understand these systems a bit better if we look at one in more detail. We will choose the Wisconsin Design because it is fairly widely used and has gone through an extensive development by Wayne Otto and a number of his colleagues at the University of Wisconsin. Much of the development was funded by the U. S. Office of Education through a Regional

Development Laboratory. Test management systems developed by commercial organizations do not always have such extensive tryouts and revisions.

The Wisconsin Design began in the Madison public schools in 1964 when Otto and his team took the existing curriculum guide and developed assessment exercises to check on specific skill development. At the same time, they began to work on record keeping systems. The Design evolved and grew over the next 10 years to include more formal criterion referenced group tests, much more carefully developed skill assessment procedures, more sophisticated record keeping, and extensive lists of commercially published lessons from dozens of sources. The outline of reading skills has also developed, but it still represents more or less a consensus of the lists of skills found in many public school curriculum guides and in the skills outlines of the publishers of basal series. The skills also have been divided into developmental levels which roughly correspond to grade levels, but the authors resist equating levels with grade for the simple reason that one of the main purposes of the design is to allow children to progress as they master the levels and not wait for September to get to the next level. Hence, bright children go through the levels relatively fast and slow children take relatively longer. Also, provision is

made for children to progress rapidly in some areas and slowly in others. In other words, management systems tend to provide for individual differences.

Insert Figure 1 here

Perhaps it will help you to grasp the idea of the design if we show you the plan in three levels of detail. First is the "big picture." In Figure 1, we see that there are six skill areas and seven developmental levels roughly corresponding to grade level kindergarten through sixth grade. The first three skill areas: Word Attack, Comprehension, and Study Skills, are relatively more developed with more detail in the outline, assessment procedures, and teaching suggestions than the latter three areas.

Insert Figure 2 here

In Figure 2, there is a section from the Outline of Reading Skills in the Word Attack Level C. There is an expansion of the circled part of Figure 1. It illustrates the amount of detail that can be expected in the outline.

Insert Figure 3 here

Next, we have an expansion of Word Attack Level C, Skill 2a Consonants and their Variant Sounds. Figure 3 contains a behavioral objective giving exactly what is meant by the outline, and it gives a skill assessment procedure that can be done by the classroom teacher. The teacher can use this exact procedure, and is encouraged to develop his or her own procedures to measure the same objective. While the behavioral objective specifies the skill in detail, it is further helpful to have an example of an assessment procedure to further specify the meaning of the outline. Take your time and read the objective carefully and you will get a good idea how behavioral objectives are written.

The skills assessment procedure in this skill and many others is individually administered. While this is excellent instruction, it is very time-consuming for a teacher with 30 children, so group assessment procedures in the form of criterion referenced tests called the "Wisconsin Tests of Reading Skills Development" were developed as part of the Wisconsin Design. These tests are helpful when starting up the system

in a school that has not previously used it, and they provide a systematic way of looking at the skill development for all children after the system has been in operation for a year or more. They can be computer scored with the results printed out in various forms such as self-stick labels for the child's folder and skills summaries for the teacher.

Another important part of the Wisconsin Design and other test management systems is the record keeping procedure. Folders with the skills printed inside are one standard method; as the child demonstrates mastery on either the skill assessment procedure or on the test, a notation is made. Mastery can be determined by the local school. Generally, 80% is acceptable, but local districts might vary the percentage from 70% to 90%, depending on the specific skill and their experience with their students. Teachers are also instructed to make classroom skill charts which list each child by name and which skills he has mastered. Another interesting type of record keeping is a McBee type card which has holes around the periphery. See Figure 4. As the skill is mastered, the hole next to the skill name is notched. When the teacher wishes to know who needs instruction in a specific skill, she takes the pack of McBee cards (one for each student in her class) and a skewer is inserted in the hole next to the skill. When

the skewer is lifted up, only those cards which have not been notched will remain on the skewer and this is the group of students who needs instruction in that skill. For example, if the teacher wants to know who needs instruction in diphthongs, she inserts the skewer in hole 6. The example card in Figure 4 is notched at hole 6 indicating mastery -- it would not stay on the skewer.

Insert Figure 4 here

In the future, test management systems like the Wisconsin Design will lend themselves to Computer Managed Instruction. Instead of having McBee cards, the teacher will be able to use the computer terminal to determine which children need which skill instruction. The computer will keep a permanent record of the child's skill progress in all areas. This information could be utilized in having it print out part of the report card for parents, and it could be used by the principal or supervisor to see which materials should be ordered. It is even possible for the same computer to score the tests so that with a single input of information there is automatic record keeping and a variety of useful outputs. Please note that this is an example of computer "managed" instruction, and this is not the same as computer assisted instruction which utilizes the computer as a teaching device.

The final component of test management systems is the instructional unit. The Wisconsin Design has Teacher Resource Files for most of the skill areas. These contain sheets of

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Insert Figure 5 here

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the skill development activities similar to those found in teachers' manuals but not particularly dependent on specific commercial materials. See Figure 5 for several activities. The Teacher Resource File also contains long lists of both printed and audio-visual material that are referenced in detail so that the teacher can find exactly where to find material for the skill. Figure 6 gives an example of some of the commercial materials. In addition, local school districts are encouraged to add to their files from commercial materials that may not be listed and from lessons or materials developed by creative teachers in the district.

Insert Figure 6 here

In summary then, these are essentially the elements of a test management system:

1. Skills outlines and specific objectives;

2. Assessment procedures to measure the objectives by informal teacher assessment and more formal criterion referenced tests.

3. Record keeping by individual child's folder, special hole cards, class record charts, or computer printout to show specific skill mastery.

4. Instructional procedures and information on where to find specific skill lessons.

Test management systems may be supplemental to a basal reading system or the test management system might control the use of the basal reading system. Stated another way: Reading instruction in the classroom might be book controlled or test controlled.

FIGURE 10-5

Wisconsin Design General Plan Showing Skill Areas by Traditional Grade Level.

Skill Area	Grade K	1	2	3	4	5	6
Word Attack	A	B	C	D	–	–	–
Comprehension	A	B	C	D	E	F	G
Study Skills	A	B	C	D	E	F	G
Self-Directed Reading	A	B	C	D	←	E	→
Interpretive Reading*	A	B	C	D	←	E	→
Creative Reading	A	B	C	D	←	E	→

Source: The Wisconsin Design for Reading Skill Development. Copyright 1972. The Board of Regents of the University of Wisconsin System.

FIGURE 10-6

Wisconsin Design: Sample Segment from the Statement of Skills and Objectives.

Level C

1. Has a sight word vocabulary (11)
2. Has phonic analysis skills
   a. Consonants and their variant sounds (2)
   b. Consonant blends (3) – e. Consonant digraphs (12)
   c. Vowel sounds
      1) Long vowel sounds (4)
      2) Vowel plus *r* (8)
      3) *a* plus *l* (9)
      4) *a* plus *w* (5)
      5) Diphthongs *oi, oy, ou, ow, ew* (6)
      6) Long and short *oo* (7)
   d. Vowel generalizations
      1) Short vowel generalization (1)
      2) Silent *e* generalization (2)
      3) Two vowels together generalization (10)
      4) Final vowel generalization (11)
3. Has structural analysis skills
   a. Base words with prefixes and suffixes (12)
   b. More difficult plural forms (14)
4. Distinguishes among homonyms, synonyms, and antonyms
   a. Homonyms (13)
   b. Synonyms and antonyms (16)
5. Has independent and varied word attack skills (17)
6. Chooses appropriate meaning of multiple meaning words (18)

Source: The Wisconsin Design for Reading Skill Development. Copyright 1972. The Board of Regents of the University of Wisconsin System.

FIGURE 10-7

Wisconsin Design Sample Behavioral Objective and Guide to Individual Skills Assessment.

C.2.a

Word Attack
Level C

Skill 2
Phonic Analysis Skills: Consonant and Their Variant Sounds

Objective

Given words containing variant sounds of *c*, *s*, and *g* (e.g., cake – city, sit – trees, go – giant), the child indicates whether the underlined letters in given pairs of words have the same or different sounds.

Note: Although the consonants *c*, *g*, *s*, *q*, *d*, *x*, *t*, and *z* have more than one sound, variant sounds of *c*, *s*, and *g* are most common at this level.

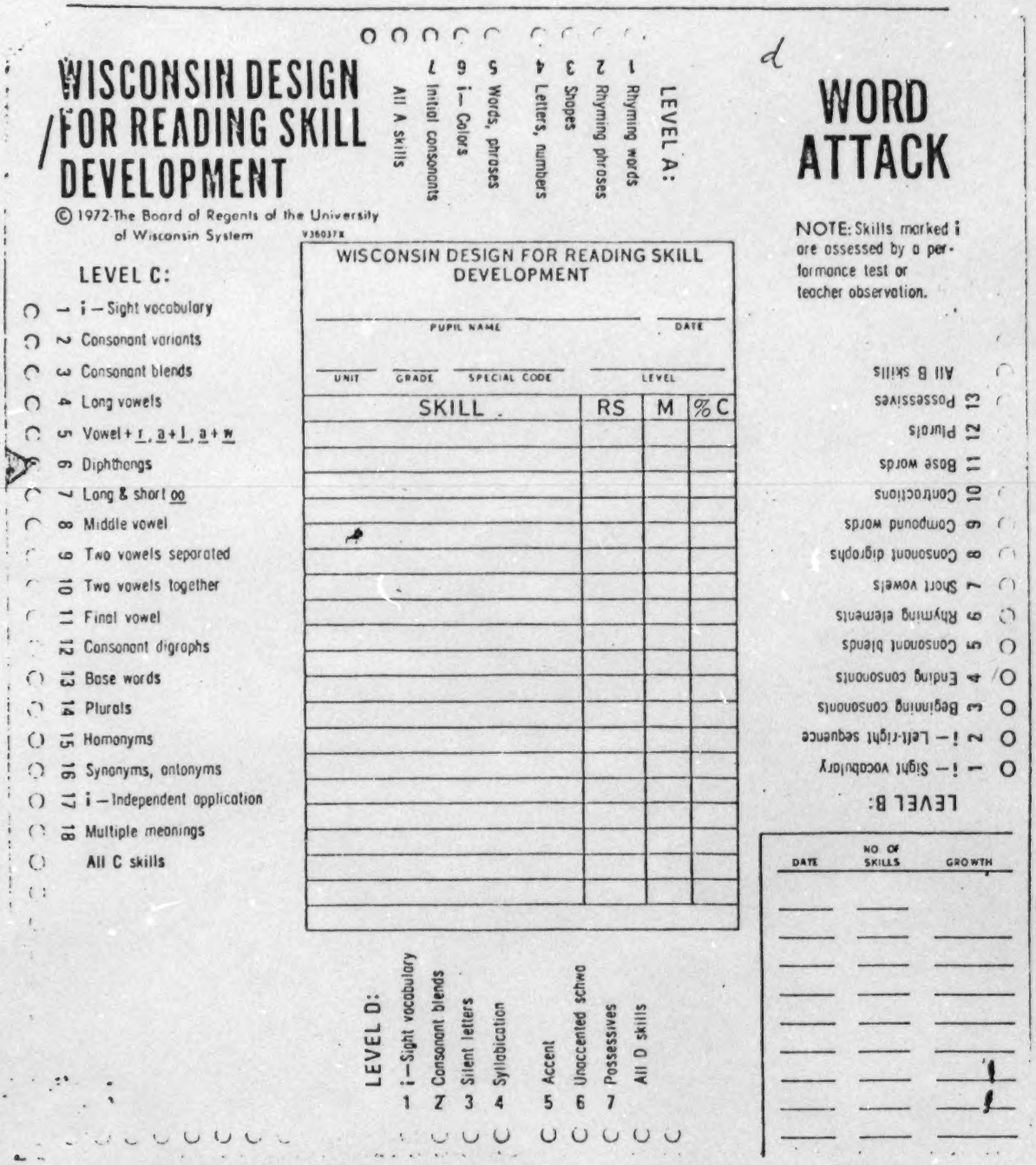
Procedure

Give the child the word list. Say, "Read to me the two words by each item number and tell me whether the underlined letters in the words have the same sound or different sounds."

	Child Reads	*Answers*
1.	picnic – circus	same
2.	giant – good	different
3.	trees – please	same
4.	drag – strange	different
5.	cage – colt	same
6.	ask – seven	same
7.	police – city	same
8.	house – busy	different
9.	begin – gift	same
10.	come – cent	different

FIGURE 1-8

Wisconsin Design Sample of Record Keeping for Skills Mastery on a McBee Card.



Source: The Wisconsin Design for Reading Skill Development. Copyright 1972. The Board of Regents of the University of Wisconsin System.

FIGURE 10-9

Wisconsin Design Sample of Instructional Material from the Teacher's Resource File.

C.2.a

Word Attack
Level C

Skill 2
Consonants and Their Variant Sounds

SKILL DEVELOPMENT ACTIVITIES

Rationale: The child learns to pronounce the appropriate variant sound of c *in words. (*Note: *Before* e, i, *and usually* y, c *has an* s *sound, otherwise* c *is sounded like* k.*)*

1 **Materials:** Word list, basic reader, picture dictionaries, spelling books, chalk, chalkboard.

Procedure: The teacher reads a list of words beginning with the *s* sound. Some of the words begin with *s*, some with *c*. The children are asked to give the beginning sound for the entire group of words. Then the teacher writes the words on the board and asks the children to group the words according to their first letter, noting that *c* sometimes has an *s* sound. Finally he writes *e* and *i* on the board and asks the children to use various books and dictionaries to find more words that begin with *ce* and *ci*. The children note that words in which *c* appears before *e* and *i* frequently have an *s* sound.

Samples:

city	circle	certain
sink	sit	center
cent	cell	simple

2 **Materials:** Mimeographed copies of soft *c* pictures (worksheet 1).

Procedure: As the teacher re-emphasizes the *s* sound in *ce* and *ci* words, the children are given the pictures illustrating these spellings.

Source: The Wisconsin Design for Reading Skill Development. Copyright 1972. The Board of Regents of the University of Wisconsin System.

FIGURE 10-10

Wisconsin Design Sample of Information on Where Skill 2, Level C Word Attack Commercial Material Can Be Found.

PRINTED MATERIAL

Allyn and Bacon, Arrivals and Departures, Teacher's Ed. (1968), pp. 60-61, 174, 192, 330.

American Book, Ideas and Images, Teacher's Ed. (1968), pp. 172, 268.

Continental Press, Phonics and Word-Analysis Skills, Grade 3: Part 1 (1968), p. 14.

Economy, Phonetic Keys to Reading, Grade 1 Teacher's Manual (1967), pp. 50-51, 70, 109.

AUDIO-VISUAL MATERIALS

Colonial Films, Consonants With Two Sounds (1967).

Ideal, Phonic Analysis, Tape No. 8, 9 (1969).

(This is only a sample; there were approximately 110 printed material references and 15 audio-visual references.)

Source: The Wisconsin Design for Reading Skill Development. Copyright 1972. The Board of Regents of the University of Wisconsin System.